

REMARKS

Claims 1, 3-5, and 7-20 remain pending in this application for which applicants seek reconsideration. Claims 11-17 and 19 remain withdrawn.

Allowable Claim

Claim 18 has been indicated to be allowable if it is placed in independent form. Claim 18 has been maintained in its dependent form as applicants believe that parent claim is in condition for allowance.

Amendment

Claim 8 has been amended to include the missing language, namely --with the low frequency range signal-- and to improve its readability. Claim 1 has been amended to remove a minor informality and improve its form. No new matter has been introduced.

Art Rejection

Claims 1, 4, and 7 were rejected under 35 U.S.C. § 102(b) as anticipated by Bank (WO 99/08479). Claim 20 was rejected under 35 U.S.C. § 103(a) as unpatentable over Bank. Claims 3, 5, and 9 were rejected under § 103(a) as unpatentable over Bank in view of Furuta (JP 06-225379). Lastly, claims 8 and 10 were rejected under § 103(a) as unpatentable over Furuta.

Independent claim 1 calls for:

- (1) a loudspeaker array comprising a plurality of loudspeaker elements arranged in a plurality of stacked horizontal rows;
- (2) an audio signal processing unit that drives a plurality of loudspeaker blocks including at least a center-channel loudspeaker block, a front left-channel loudspeaker block, and a front right-channel loudspeaker block each composed of a group of loudspeaker elements in the loudspeaker array, respectively with a plurality of audio signals including at least a front left-channel signal, a front right-channel signal, and a center-channel signal;
- (3) wherein the center-channel loudspeaker block includes at least all of the loudspeaker elements in one of the plurality of stacked horizontal rows.

Independent claim 8 calls for:

- (1) same as claim 1;
- (4) an audio signal processing unit that divides an audio signal into a plurality of frequency band signals, including a high frequency range signal and a low frequency range signal;

- (5) wherein the audio signal processing unit drives, with the low frequency range signal, a second loudspeaker block composed of all of the loudspeaker elements in a single horizontal row among the plurality of stacked horizontal rows.

First, regarding independent claim 1, the examiner asserts that Bank discloses claimed feature (3) above, namely a center-channel loudspeaker block that includes at least all of the elements in one of the stacked horizontal rows, relying on Figs. 1 and 7. Applicants disagree. As explicitly disclosed on page 13, lines 16-30, Bank discloses that each of the left-front, center-front, right-front, rear-left, and rear-right channels 101-105 is output to a corresponding speaker array 111, 112, 113, 114, or 115. That is each channel is sent to a dedicated corresponding speaker array. In contrast to the examiner's assertions, all of the speakers in each speaker array are driven. Bank does not disclose or teach driving one horizontal row of all of the speaker arrays 111-115 for the center channel. Rather, Bank drives only the front center speaker array (e.g., 113). Bank is completely silent regarding configuring the speakers as set forth in claim 1, namely forming the center-channel loudspeaker array with at least all of the loudspeakers in one of the horizontal row, as illustrated for example in Fig. 1 of the present disclosure.

Second, the examiner relied upon Furuta to reject claims 3, 5, and 8-10. The examiner has referred to paragraphs 18-21 and Figs. 5-8 of Furuta. As to claim 8, the examiner acknowledges that Furuta does not disclose having the speakers arranged as claimed, but asserts that claimed feature (5) above would have been obvious given the various speaker configurations illustrated in Furuta's Figs. 5-8. Specifically, Furuta discloses using two horizontally extending rows of speakers, an eight-speaker row 2 and a seven-speaker row 3. In Fig. 5, eight band pass filters (BPF) 71-78 having **different** passing frequencies are connected to the fifteen speakers, each BPF 72-78 being connected to a pair of speakers, while BPF 71 is connected to only the center speaker of the seven-speakers row 3. Fig. 6 is similar to Fig. 5 except that a low pass filter (LPF) 78a is connected to the outer two speakers of the 8-speaker row 2, while a high pass filter 71a is connected to the center speaker of the 7-speaker row. Fig. 7 is similar to Fig. 5, except that eight LPFs 81-88 are used. Fig. 8 is similar to Fig. 7 except that LPF 81 is omitted, and all remaining seven LBFs 82-88 are connected to the center speaker of the 7-speaker row.

Furuta simply does not teach claimed feature (5) above. Indeed there is no suggestion anywhere for connecting the entire row of the speakers, either the seven-speaker row 3 or the eight-speaker row 2 with a single LPF. The examiner's argument that it would have been

obvious to input the entire row of speakers to be driven with a low frequency range is simply unfounded. There simply is no good reason for arranging it in the manner urged by the examiner given what Furuta discloses.

Third, regarding claim 20, the examiner asserts that the claimed speaker configuration is merely a design choice. The examiner's rationale for establishing prima facie obviousness via a design choice argument is clearly improper here because to establish that the claimed invention is directed to an obvious subject matter, either the applied reference must expressly or implicitly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why an ordinary artisan would have found the claimed invention to have been obvious in light of the teachings of the applied reference. The suggestion or the examiner's reasoning, however, must be objective, supported by prior art. Here, the examiner's design choice argument is merely an unsupported conclusion or conjecture made up by the examiner, one that clearly lacks any objective support.

Request for Interview

Applicants request a personal interview before the examiner issues a next Office Action. The undersigned will contact the examiner to schedule an interview in due course. The examiner, however, is urged to contact the undersigned if the examiner intends to act on this case before an interview is scheduled.

Conclusion

Applicants submit that the pending claims are in condition for allowance. Should the examiner have any issues concerning this reply or any other outstanding issues remaining in this application, applicants urge the examiner to contact the undersigned to expedite prosecution.

Respectfully submitted,

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DATE

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